

ARRA COMMERCIAL BUILDING PARTNERSHIPS CALL FOR PROJECTS

Updated: May 14, 2010

Version 1.7c

Amendment 2: The Call for Projects application deadline has been extended until **Friday, May 28, 2010, 12 p.m. (noon) Eastern Daylight Time.**

~~**Amendment 1:** The Call for Projects application deadline has been extended until **Friday, May 14, 2010, 12 p.m. (noon) Eastern Daylight Time.** In addition, the deadline for application-related questions has been extended until **Friday, May 7, 2010.**~~

1 INTRODUCTION

Lawrence Berkeley National Laboratory (LBNL), the National Renewable Energy Laboratory (NREL), and Pacific Northwest National Laboratory (PNNL) jointly request building design and construction project proposals from organizations interested in substantially reducing energy use in the commercial building sector. The call for projects described in this document is in support of the U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Building Technology Program (BTP). DOE will provide the technical resources of the three laboratories and technical experts to help organizations meet this call for their projects' energy savings goals.

This document describes the process for building owners, developers, tenants, and operators to submit building project proposals for consideration. It does not describe the process for parties interested in providing support (architects, engineers, consultants, etc.) for this initiative. Parties interested in providing support should visit cbp-forum.lbl.gov

1.1 Background

In May 2008, DOE selected PNNL and NREL to work with 23 companies to create, test, validate, and deploy low-energy building designs. NREL and PNNL developed the CBP initiative in response to a DOE May 2008 BTP Proposal Call. CBP enables companies to explore energy-saving design alternatives that may be too technologically challenging or expensive to consider without the DOE-funded technical expertise of the National Laboratories.

The CBP objective is to develop a set of energy-efficient, market-ready building solutions that will be widely deployable throughout the commercial building sector. Participants thoroughly document the individual building projects to make a business case for replicating the many technologies, techniques, and best practices used to achieve high performance.

In the initial CBP project, each company agreed to work with either NREL or PNNL to design and construct a new building that uses 50% less energy than an ASHRAE/IESNA Standard 90.1-2004 compliant building, retrofit an existing building to achieve 30% savings compared with its baseline energy consumption, or do both. In exchange for the companies' commitments, DOE provides the technical expertise of laboratory personnel to help the companies meet or exceed their goals.

In early 2010, DOE instructed LBNL, NREL, and PNNL to create a new CBP project to include a number of projects funded by the American Recovery and Reinvestment Act (ARRA). This is similar to the original CBP project, yet differs in several important ways. For example, Participants will enter CBP having already selected their building projects, and private and public sector technical experts rather than laboratory personnel will perform many of the day-to-day project activities.

1.2 Definitions

This section provides definitions for terms used throughout this document.

National Laboratory: The National Laboratories are Federally Funded Research and Development Centers that are administered, managed, operated, and staffed by private organizations and universities under contract with DOE. LBNL, NREL, and PNNL are cooperating to issue this Request for Proposals.

Participant in the Commercial Building Partnerships (Participant): A Participant is an owner, developer, operator, manager, or other entity with a vested interest in a property and has committed to participate and meet project goals and expectations.

Technical Expert Team: A team of individuals, companies, or other entities that can provide a broad range of technical expertise to participants to meet program goals.

Team Lead: The lead individual, company, or entity for a Technical Expert Team. The Team Lead will be responsible for most interactions with the National Laboratories and Participants. The Team Lead will be responsible for completing deliverables, managing finances, and coordinating other team members, and will likely be required to have subcontracts or other agreements with other members of the Technical Expert Team.

M&V Technical Contractor: An individual, company, or entity that acts apart from a Technical Expert Team and provides focused expertise in the area of Measurement and Verification (M&V) related to building operations.

Participant Project: A project or Participant project refers to an individual design and construction project. A proposal, if selected, becomes a Participant project. A typical Participant project lasts approximately three years.

Commercial Building Partnerships: Commercial Building Partnerships or CBP refers to the collection of all Participant projects (the CBP is a project consisting of Participant projects—a project of projects).

1.3 Commercial Building Partnerships Goals

The overarching goal for CBP is to reduce energy use in the commercial building sector by demonstrating high-performance design, construction, and operations options that can be widely deployed throughout the commercial building sector.

To help achieve this goal, CBP has two categories of projects:

- Projects that are likely to produce significant energy savings sector wide in the near term (project types 1, 2, and 3 as shown in Table 1).

These types of projects are typically cost-effective, energy efficient, and can often be completed with today's commonly available building technologies. Such projects, because of their attractiveness in terms of both energy efficiency and cost effectiveness, will be prime candidates for deployment throughout a Participant's portfolio and perhaps throughout the sector.

- Projects that explore the boundaries of current building technologies and help develop a market for energy-efficient technologies in the longer term (project types 4 and 5 as shown in Table 1).

These types of projects help to develop the foundation for the next generation of commercial buildings by demonstrating what is possible and by helping to create demand for building technologies that may be necessary to meet the next generation of energy savings goals.

Both categories of projects are important. Types 1, 2, and 3 produce deployable returns that help to meet near-term goals; types 4 and 5 explore boundaries that help to develop a market for technologies that will help meet longer term goals.

Table 1 describes the specific types of projects that are eligible for CBP. The energy savings goals vary with project type and range from a 30% for retrofit projects to net-zero energy use for exemplary new construction projects.

Table 1. Participant Project Types and Participant Project Goals

	Project Type	Participant Project Goals
1	Renovation of an existing building	<ol style="list-style-type: none"> 1) Achieve 30% or more energy savings relative to either a) the median energy performance of the company's building stock, or b) the median energy performance from the EIA Commercial Building Energy Consumption Survey for a similar building type. The completed retrofit must meet or exceed the energy performance of an equivalent, newly constructed, ASHRAE Standard 90.1-2007 compliant building. 2) Facilitate deployment by integrating the lessons learned during the design, construction, and operation of the retrofit project into the Participant's retrofit practices.
2	Design and construction of a new building	<ol style="list-style-type: none"> 1) Achieve 50% or more energy savings relative to an ASHRAE Standard 90.1-2007 compliant building. 2) Facilitate deployment by integrating the lessons learned during the design, construction, and operation of the new building into the Participant's new construction practices.

	Project Type	Participant Project Goals
3	Reduction of energy use across an entire portfolio of buildings	1) Retrofit two or more building systems throughout the Participant's building portfolio to achieve significant energy savings portfolio wide. The threshold for energy savings will be determined on a project-by-project basis.
4	Exemplary retrofit project	1) Retrofit an existing building or a group of buildings (e.g., an existing campus) to achieve a 50% energy savings relative to either a) the median energy performance of the company's building stock, or b) the median energy performance from the EIA Commercial Building Energy Consumption Survey for a similar building type. The completed retrofit must meet or exceed the energy performance of an equivalent, newly constructed, ASHRAE Standard 90.1-2007 compliant building(s). 2) Facilitate deployment by integrating the lessons learned during the design, construction, and operation of the retrofit project into the Participant's retrofit practices.
5	Exemplary new construction project	1) Design, construct, and commission a new building or group of buildings that achieves net-zero energy use according to one or more of the four definitions described in "Getting to Net Zero" (<i>ASHRAE Journal</i> , September 2009). 2) Facilitate deployment by integrating the lessons learned during the design, construction, and operation of the net-zero energy building into the Participant's design, construction, and building operation practices.

Each project type has design, construction, validation, and deployment phases, and all five project types are intended to facilitate deployment of energy-saving measures in existing building portfolios and future construction investments, not just individual buildings.

Additional information about the project types and energy savings goals for each project type can be found in the Stage-Gate Criteria document (see www.nrel.gov/cbp/stage-gate.pdf).

1.4 Support Provided by DOE Through the National Laboratories

DOE will provide technical support to projects accepted into CBP through the expertise of the National Laboratories and the laboratories' Technical Expert Teams and M&V Technical Contractors. The National Laboratories and Technical Expert Teams will work with the Participants to develop, incorporate, test, and deploy energy-efficient designs and practices. Assistance may be in the form of staff, equipment (which will be on loan during the project, but owned by DOE), Web-based resources, or specialized contractors.

Specifically, DOE will provide technical support in the dollar amount equivalent of up to 80% of the design costs incurred exploring and implementing energy efficiency measures (EEMs) in the proposed projects. Support is for efforts that are beyond the Participant's normal costs and is in the form of in-kind equivalents. No direct compensation will be paid to CBP participants.

1.5 ARRA Reporting Requirements

CBP Participants will not receive ARRA funds directly. However, Participants will receive value through the National Laboratories' and the Technical Expert Teams' expertise. Consequently, Participants accepted into CBP may be required to provide information to the National Laboratories (or the Technical Expert Teams on behalf of the National Laboratories) to meet ARRA reporting requirements.

1.6 Summary of the Application Process

The application process is Web based and is being managed for the three participating laboratories by NREL. (See Section 5 for additional information.)

1.6.1 Application Deadline

The last day to submit an application is ~~May 14, 2010~~ May 28, 2010. Applications must be submitted in their entirety by 12:00 p.m. (noon), Eastern Daylight Time to be considered for inclusion in CBP.

2 PARTICIPATION REQUIREMENTS

Companies participating in CBP shall commit to meet the following requirements:

1. Propose a project located in the United States.
2. Propose a project that can be completed by August 1, 2013.
3. Contribute to the cost of the project.
4. Identify a project sponsor.
5. Share design, construction, and operations information.
6. Work iteratively with the Technical Expert Teams.
7. Construct or implement the projects.
8. Commission and monitor projects.
9. Participate in a Commercial Building Energy Alliance.
10. Document project progress.
11. Develop a deployment plan.

Sections 2.1 through 2.11 provide additional information about each requirement.

2.1 Propose a Project Located in the United States

Only projects located in the United States will be considered for participation in CBP.

2.2 Propose a Project That Can Be Completed by August 1, 2013

Projects are expected to start in the fourth quarter of the federal government's fiscal year 2010 and be completed by August 1, 2013, including commissioning and monitoring (see Section 2.8), the completion of all project documentation by Technical Expert Teams and M&V Technical Contractors (see Section 2.10), and the completion of the deployment plan (see Section 2.11).

2.3 Contribute to the Cost of the Project

Each Participant will be required to commit time and resources as a cost share to the low-energy design portion of its project(s). The cost-share contribution is expected to be in the form of in-kind contributions for expenses incurred by the Participant in direct support of the CBP project goals (management and staff time, design team charges, travel costs, and other direct support costs such as copying, meeting rooms, and other business services are examples of acceptable contributions). Direct construction costs (capital or labor) are not applicable toward the cost share. Participants are not expected to contribute cash to the technical expertise provided by DOE through the National Laboratories. Participants will be required to document cost-share contributions on a quarterly basis. A sample spreadsheet used to track contributions in the pilot program is available at www.nrel.gov/cbp/cost-share.xls.

Each Participant must commit to providing a 20% cost share relative to the total low-energy project cost. The total cost is the sum of the DOE contribution plus the cost share. If a project is selected, a National Laboratory will work with the Participant to develop a budget for the DOE contribution and the cost share. The Participant will have a good expectation of the cost share requirement before committing to the project. The nature of the DOE contribution is described in Section 1.4.

Typical Participant cost share amounts are expected to be \$60,000 to \$175,000; the actual dollar value will depend on the amount of technical expertise required over the nominal three-year project period. As an example, if a low-energy project costs \$500,000 for the technical expertise provided by the National Laboratories and the costs incurred by the Participant, the cost-share provision is satisfied if the Participant's contribution amounts to \$100,000.

2.4 Identify a Project Sponsor

A clear identification of sponsorship within the Participant's organization is a key factor in a project's success. Consequently, as a part of the application process, potential Participants shall identify the senior executives within their organizations who will serve in this capacity. The sponsor should be at a level such that the executive can commit the organization's resources to the project, has knowledge of how and why building decisions are made, and has the authority to share company information, plans, specifications, and construction budgets with the National Laboratories, Technical Expert Teams, and M&V Technical Contractors.

In the application, the Participant must include a short written statement from the executive that demonstrates that the organization is committed to the CBP goals, objectives, and requirements. If

a firm is selected as a potential participant in CBP, a copy of the executive's statement on company letterhead will be required before final acceptance into CBP.

For a potential Participant's application to be accepted, the applicant must confirm that he or she understands the required roles and responsibilities of providing a project sponsor.

2.5 Share Design, Construction, and Operations Information

An open sharing of information is required for the National Laboratories, Technical Expert Teams, and M&V Technical Contractors to be able to make high-quality contributions to the Participant's design and construction processes. A Participant shall be required to demonstrate its willingness to share information by:

- Completing or waiving its rights to a non-disclosure agreement (NDA) with the National Laboratory overseeing its project(s), members of the Technical Expert Teams, and M&V Technical Contractors. The NDA protects the Participant's information and expedites the sharing of information among the Participant, National Laboratory, Technical Expert Team, and M&V Technical Contractor. To remain a Participant in CBP, the Participant must complete this task within one month after being accepted into CBP.
- Sharing building design drawings and specifications with the assigned National Laboratory, Technical Expert Team, and M&V Technical Contractor.
- Identifying the decision-making process for selecting energy efficiency improvements and the key individuals or committees that will make those decisions. Metrics may include simple payback, life cycle costs, internal rates of return, and constraints such as percentages of capital budgets permitted for energy efficiency. Organizational policies or constraints should be identified in project proposals. Other business criteria may include operational constraints related to schedules and the look and feel of particular building features related to branding.
- Sharing the organization's construction and retrofit schedules for its portfolio. Such information helps the National Laboratory determine the overall energy-saving opportunity of the partnership.

The Participant's business-sensitive information will be protected as specified in the negotiated NDA. For a potential Participant's application to be accepted, the applicant must agree to the above requirements.

2.6 Work Iteratively With the Technical Expert Teams

The Participant and its design team will need to work iteratively with the National Laboratory and its Technical Expert Team throughout the project to determine an acceptable set of design and operational recommendations to meet energy efficiency goals.

To achieve the project goals will require an iterative effort on the part of the design team. EEMs will be suggested, explored, modeled, and validated. It usually takes several iterations to develop an acceptable design, and the Participant and its design team must be willing to work with the National Laboratory and Technical Expert Team throughout this process.

For a potential Participant's application to be accepted, the applicant must confirm that he or she understands the need to work iteratively with the National Laboratory and Technical Expert Team.

2.7 Construct or Implement the Projects

As discussed in the stage-gate process described in Section 4, potential Participants are committing to build or implement the proposed projects. Decision points are included in the stage-gate process to ensure that projects meet Participants' business criteria.

2.8 Commission and Monitor Projects

Participants will be required to commission and monitor their building projects. Although both activities are the responsibilities of the Participants, the National Laboratories and their M&V Technical Contractors will provide assistance throughout the process.

Commissioning shall be completed for the following systems, as applicable:

- Heating, ventilating, air conditioning, and refrigeration (HVAC&R) systems and associated controls
- Lighting and daylighting controls
- Domestic hot water systems and associated controls
- Renewable energy systems
- Energy management systems.

Upon completion of the commissioning activities, the commissioning report will be shared with the National Laboratory overseeing the Participant's project. The results will be included in the research report and in the business case.

Energy use monitoring will be required at the "end use" level; monitoring requirements will vary with the project type. Typical end use categories are listed below:

- Cooling energy
- Heating energy
- Fan energy
- Pumping energy
- Lighting energy
- Plug and process loads
- Domestic hot water
- Refrigeration energy

- Space temperature
- Space humidity
- Weather information.

The monitoring requirements can be achieved in one of several ways:

- For new construction projects (including exemplary new construction projects), the organization shall install and operate its own monitoring system or allow a National Laboratory-directed M&V Technical Contractor to install and operate a monitoring system. The monitoring system is to be installed and in operation before the building is occupied. A typical period of monitoring is up to 1.5 years. In the case where DOE provides the monitoring equipment, the equipment remains DOE property and will be removed at the completion of the project.
- For retrofit projects (including exemplary retrofit projects), the monitoring system installation and operating requirements are similar to those for new construction projects, but the system is to be installed and in operation before renovation so that a building operation baseline can be established. A typical period of monitoring is 2.5 years (up to 1 year to establish a baseline, and up to 1.5 years to evaluate the retrofit's performance).
- For portfolio projects, the monitoring system installation and operating requirements are similar to those for retrofit projects (up to 2.5 years). The requirements differ in that monitoring systems may need to be installed and operated in several buildings to demonstrate the effectiveness of the EEMs employed.

In all cases, the data collected as a part of the monitoring process is to be openly shared with the Participant, the National Laboratory overseeing the project, and the M&V Technical Contractor working on the project. The data will be used to confirm that the completed project is meeting the design goals and to validate the tools and models used during the project's design. A National Laboratory or the M&V Technical Contractor will do this. Some non-business-sensitive data will be publicly available in the business case and benchmarking activities associated with the project. The data will be subject to NDAs and will become the property of the National Laboratory overseeing the project. The data may be used for ongoing research.

For a potential Participant's application to be accepted, the applicant must confirm that he or she understands the above commissioning and monitoring requirements.

2.9 Participate in a Commercial Building Energy Alliance

Each Participant will be required to participate in one of the Commercial Building Energy Alliances. Energy alliances are organizations made up of building portfolio owners and managers who

promote research, technology, and best practices that will improve the energy efficiency of commercial buildings. The following energy alliances are available:

- Retail Energy Alliance (REA)
- Commercial Real Estate Energy Alliance (CREEA)
- Hospital Energy Alliance (HEA).

Each energy alliance has subcommittees that focus on specific energy use areas (e.g., the REA has lighting, HVAC, and whole-building integration subcommittees). These subcommittees meet periodically (typically once a month via a one-hour teleconference) and are led by a technical expert from a National Laboratory.

For more information about the various Commercial Building Energy Alliances and their subcommittees, visit www1.eere.energy.gov/buildings/alliances/.

For a potential Participant's application to be accepted, the applicant must confirm that he or she understands the requirements of participating in the respective energy alliance.

2.10 Document Project Progress

Each Participant and design team will be required to help document the progress of their projects. The main purpose for documenting the project is so that the lessons learned can be used to help with the deployment of energy-saving measures throughout the commercial building sector. The Team Lead will have the primary responsibility of documenting project progress, and the Participant will contribute to the Team Lead's effort by providing information that the Team Lead will integrate into project reports. Examples of the types of documentation to be produced are:

- Monthly reports
- Quarterly progress reports, including cost-share reports
- Stage-gate reports (documentation that demonstrates that the Participant and the Technical Expert Team have met the requirements of each stage of work [see Section 4 for information about project stages])
- Technical and business cases for each project.

A Participant may be asked to present information about the progress of the project to energy alliance members or to contribute to technical papers for presentation at conferences or publication in journals.

For a potential Participant's application to be accepted, the applicant must confirm that he or she understands the requirements of working with the National Laboratory overseeing the project and the Technical Expert Team assigned to the project to document the project's progress.

2.11 Develop a Deployment Plan

At the completion of stage gate 4, the Participant shall work with the National Laboratory, its Technical Expert Team, or both, to develop a plan deploying the favorable aspects of its project throughout the Participant's portfolio.

3 PROPOSAL EVALUATIONS

The proposal process is competitive, and proposals will be evaluated according to five criteria:

1. Likelihood of achieving significant energy savings
2. Probability of success
3. Widespread deployment potential
4. Contribution to CBP portfolio of energy-saving solutions
5. Participant's resource commitment to improve energy efficiency.

Criteria 1 and 2 have to do with whether a proposed project would likely meet its goals (the company has a clear understanding of CBP goals and has committed the resources—finances, staff numbers, and expertise—necessary to meet the CBP goals).

Criteria 3 and 4 evaluate the potential of a proposed project to have a widespread impact (high deployment potential) throughout the commercial building sector.

Additional information about each evaluation criterion is included in Section 3.1 through Section 3.5.

3.1 Likelihood of Achieving Significant Energy Savings

Each proposal will be evaluated based on the stated energy-savings target and how clearly the company or organization demonstrates its commitment to and understanding of the development of a design or retrofit that will meet the energy-savings target. Methods of demonstrating commitment to achieving significant energy savings vary with project type. Several examples are given below.

- New construction and renovation projects

For new construction and renovation projects, the company should state its energy savings goal and then describe the efforts the organization is willing to make to reach the goal. For example, is the company willing to reexamine its program requirements and explore the use of an open floor plan in place of private offices? At a minimum, the application should include a list of EEMs that the organization is willing to consider for its project, and provide a discussion of how these measures are to be evaluated. Note whether decisions will be

made strictly on a financial basis (e.g., first cost plus operating savings over a 5-year period) or according to some other criteria (e.g., solar panels, although they seldom meet a company's normal value engineering criteria, are often included in a project because of some other perceived value to the organization).

- Portfolio projects

Proposals for portfolio projects should describe the nature of the EEMs that will be considered, along with their potential impacts. For example, if the organization proposes a portfolio-wide retrocommissioning project for its mechanical and energy management systems, list approximately how many facilities will be affected and an estimate for the potential energy savings portfolio wide.

- Exemplary projects

Applications for exemplary projects are similar to the new construction and retrofit applications; however, they should demonstrate that the organization has a clear understanding of what will be required to reach an exemplary level of energy savings. Discussions of innovative technologies that the organization is willing to consider, along with the methods that will be used to evaluate the technologies, are encouraged.

Finally, each proposal must include a discussion of how the organization will use the results of its proposed project to improve the energy efficiency of its building portfolio.

3.2 Probability of Success

The proposals will be evaluated based on whether the resources required for a successful project are available. The application should demonstrate that the project is sufficiently funded and that adequate personnel, both in terms of staffing levels and skills and experience, are available. The proposal should demonstrate that the submitting organization is capable of incorporating innovative ideas into the final design.

3.3 Widespread Deployment Potential

Each proposal will be evaluated on the potential impact of the proposed project to the applicant's building portfolio and to the commercial building market sector as a whole. Specifically, the project will be evaluated on whether the methods and technologies likely to be developed as a part of the project would be deployable on a widespread basis. A discussion of how the lessons learned during the project will be integrated into the organization's overall building plans should be included.

The organization's willingness to serve as a market leader in sharing its lessons learned with the organization's energy alliance and with the commercial building sector as a whole will also be evaluated.

3.4 Contribution to CBP Portfolio of Energy-Saving Solutions

One of CBP's goals is to develop high-value, cost-effective solutions that fill gaps in missing subsector, delivery method, or technology solution areas.

Example of areas where specific solutions are needed include:

- Market subsector: What is the most cost-effective way to build a low-energy gas station/convenience store?
- Building delivery methods: How do lease terms need to be modified to encourage energy conservation on the part of both tenant and landlord?
- Building technology: Is ammonia-based refrigeration energy efficient, and how can it be cost-effectively deployed in the retail grocer subsector?
- Climate specific solutions: Is a passive or an active desiccant system a more cost-effective dehumidifying medium for large office buildings?

In addition to individual solutions, CBP seeks solutions that address several areas. One example is the use of innovative technology to reduce energy use for grocery stores located in hot and humid climates.

These examples are just a few areas where market-ready solutions are needed in the commercial building sector. The National Laboratories are open to considering a wide array of options.

3.5 Resource Commitment to Improve Energy Efficiency

Proposals that show a company's willingness to contribute more than the minimum requirement of 20% for cost sharing will be evaluated favorably.

4 PROJECT STAGES

Projects accepted into CBP will be conducted in stages. Before a project is allowed to move from one stage to the next, the Participant's design team, in collaboration with the Technical Expert Team and M&V Technical Contractor, must demonstrate that the project has met the requirements for the current stage. As a part of this demonstration, the Participant must document that moving to the next project stage is consistent with its business criteria. Not all projects will successfully move from stage to stage.

For each stage, the National Laboratories will either provide technical expertise directly or select a Technical Expert Team and/or M&V Technical Contractor, working under contract to a National Laboratory, to work with the Participant to achieve the goals of the given project stage. Each team will have a designated Team Lead who will be responsible for day-to-day interactions with the Participants. The Team Lead will engage the services of other team members as dictated by the needs of the Participant and project.

CBP projects are divided into six stages (including Stage 0), as follows:

Stage 0: Commercial Building Partnership Selection

Stage 1: Predesign Planning

Stage 2: Design/Redesign

Stage 3: Construction and Commissioning

Stage 4: Performance Monitoring and Verification

Stage 5: Deployment

At the completion of Stages 2, 3, and 4, the National Laboratory, the Team Lead, or both will prepare a technical report. This is key, because it is the program measurement and monitoring report that DOE uses to demonstrate progress toward its program goals.

4.1 Stage 0: Commercial Building Participant Selection

This stage will be accomplished through this competitive call for projects.

4.2 Stage 1: Predesign Planning

A Technical Expert Team, an M&V Contractor, and National Laboratory personnel will work with each Participant to conduct a preliminary analysis to ensure that proposed projects are likely to fulfill DOE energy efficiency requirements and meet each Participant's business needs, constraints, and objectives (business criteria).

As part of Stage 1, the M&V Contractor will collect baseline data (either from the Participant's submetering system or by installing and operating a data acquisition system) and then work with the National Laboratory to develop a baseline model for the proposed building.

4.3 Stage 2: Design/Redesign

The National Laboratory and Technical Expert Team help the Participant to develop its designs. Assistance includes integrated design expertise and detailed energy and cost analyses to confirm that the proposed designs meet energy-savings targets and cost requirements. A technical report will be produced to show the range of energy efficiency options, costs, benefits, and tradeoffs considered.

4.4 Stage 3: Construction and Commissioning

During the construction process, the National Laboratory, Technical Expert Team, and Participant work together to ensure that the EEMs are installed and functioning correctly.

4.5 Stage 4: Performance Monitoring and Verification

In Stage 4, the performance of the building (or buildings in the case of a portfolio project) will be monitored and verified. Energy use data will be collected and analyzed to determine actual building performance. The results will be used to validate design methods and evaluate the usefulness of analysis tools.

As a part of this stage, the Participant, National Laboratory, Technical Expert Team, and M&V Contractor will collaborate to prepare a technical case and a business case for each Participant project.

The technical cases will document the architectural and engineering fundamentals of each project and provide results about the energy-saving effectiveness of the various EEMs employed. The business cases will explore each project from a financial perspective: Were the designs cost effective to build? Do the designs make sense to deploy throughout the portfolio or sector?

The technical and business cases will be published in such a manner as to protect the Participant's business-sensitive information.

The technical and business cases provide the foundation for deployment.

4.6 Stage 5: Deployment

Stage 5 builds on the successes of earlier stages of each project. The Participant's design team, National Laboratory, and Technical Expert Team will work together to develop methods that will help enable the Participant to deploy the energy-saving measures developed as a part of its project throughout its portfolio.

Stage 5 activities consist of tasks such as working with the Participant to integrate the lessons learned into its standard design practices, helping the Participant to improve its low-energy procurement processes, etc. Stage 5 facilitates deployment but does not include actual deployment activities. Such tasks are outside the scope of CBP.

As a part of this final stage, each National Laboratory will prepare a final research report that summarizes the lessons learned, future research needs, and successful and unsuccessful design and construction practices.

Stage 5 is to be completed by August 1, 2013.

5 THE APPLICATION REQUIREMENTS

Questions During the Application Process

Questions that arise during the application process should be e-mailed to cbp@nrel.gov. Questions and answers to this call for projects will be posted on the frequently asked questions page of the Call for Projects on the CBP Web site:

<http://www.nrel.gov/cbp/questions.cfm>

The last day for application-related questions is ~~May 3, 2010~~ **May 7, 2010**; questions received after this date may not be answered.

5.1 Format Requirements

Follow the instructions on the CBP Web site:

http://www.nrel.gov/cbp/call_projects.cfm

5.2 Submittal Process

The submittal process is paperless, and applications shall be submitted electronically at the CBP Web site:

http://www.nrel.gov/cbp/call_projects.cfm

5.3 Successful Applicants Negotiate Their Commitments

The National Laboratory that will oversee each selected project will contact the applicant to confirm and document project details.

To ensure that both the prospective Participant and the National Laboratory have a clear understanding of the project, they will work together to develop a document that describes the type of project, summarizes the energy goals, and documents that the Participant is aware of CBP requirements. The document typically takes the form of a commitment letter from one or more executives who are at a level where they can commit sufficient company or organization resources for the project to succeed.

The commitment document must be complete for a project to be accepted into CBP.